

What is claimed is:

1. A battery pack wherein a battery is temporarily held in a mold for forming a molded resin region, the battery is attached to synthetic resin injected into the
5 mold cavity to form the molded resin region, and this molded resin region is attached to a safety valve opening surface provided on the battery safety valve opening region;
wherein insulating material is disposed in a position closing off the safety valve opening region at the interface between the battery safety valve
10 opening surface and the molded resin region, a through hole is established through this insulating material at a position separated from the safety valve opening region, molded resin region is injected into this through hole, and molded resin region injected into the through hole attaches to the battery safety valve opening surface.
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2. A battery pack as recited in claim 1 wherein the insulating material is a rigid plate which does not deform under the pressure of molded resin region formation.
- 20 3. A battery pack as recited in claim 2 wherein the insulating material is a glass fiber reinforced epoxy plate.
4. A battery pack as recited in claim 1 wherein the insulating material is attached to the battery safety valve opening surface via double sided
25 adhesive tape.
5. A battery pack as recited in claim 1 wherein the insulating material outline is made smaller than the outside perimeter of the battery safety valve opening surface, and the molded resin region is attached to safety valve opening
30 surface around the insulating material perimeter.
6. A battery pack as recited in claim 1 wherein the battery safety valve opening surface is the surface with a protruding electrode, and the insulating

material has the through hole established between the protruding electrode and the safety valve opening region.

5 7. A battery pack as recited in claim 1 wherein a formed plastic piece formed separately from the molded resin region is attached to the end plane opposite the battery safety valve opening surface to which the molded resin region is attached, and pull out grooves are provided on the surface of this formed plastic piece.

10 8. A battery pack as recited in claim 7 wherein the surface of the formed plastic piece has a symmetric shape.

15 9. A battery pack as recited in claim 7 wherein the formed plastic piece has alignment ribs which locally contact the attachment surface at the battery end plane to align the formed plastic piece in a fixed position.

20 10. A battery pack wherein a battery is temporarily held in a mold for forming a molded resin region, the battery is attached to synthetic resin injected into the mold cavity to form the molded resin region, and this molded resin region is attached to a safety valve opening surface provided on the battery safety valve opening region;
wherein insulating material is disposed in a position closing off the safety valve opening region at the interface between the battery safety valve opening surface and the molded resin region, this insulating material has an
25 embedded projection on the side of the insulating material opposite its battery attachment surface, this embedded projection is buried in the molded resin region, and the embedded projection couples the insulating material and the molded resin region.

30 11. A battery pack as recited in claim 10 wherein the embedded projection can be a reverse tapered shape which becomes thicker or wider towards its end, a hook shape with hooks provided at its end, a rod shape with a plurality

of projections provided on its surface, or a rod provided with cavities or through holes in its surface.

5 12. A battery pack as recited in claim 10 wherein the insulating material has a through hole established at a position separated from the safety valve opening region, molded resin region is injected into this through hole, and molded resin region injected into the through hole attaches to the battery safety valve opening surface.

10 13. A battery pack as recited in claim 12 wherein the battery safety valve opening surface is the surface with a protruding electrode, and the insulating material has the through hole established between the protruding electrode and the safety valve opening region.

15 14. A battery pack as recited in claim 10 wherein the insulating material is a rigid plate which does not deform under the pressure of molded resin region formation.

20 15. A battery pack as recited in claim 14 wherein the insulating material is a glass fiber reinforced epoxy plate.

25 16. A battery pack as recited in claim 10 wherein the insulating material is attached to the battery safety valve opening surface via double sided adhesive tape.

30 17. A battery pack as recited in claim 10 wherein the insulating material outline is made smaller than the outside perimeter of the battery safety valve opening surface, and the molded resin region is attached to safety valve opening surface around the insulating material perimeter.

18. A battery pack as recited in claim 10 wherein a formed plastic piece formed separately from the molded resin region is attached to the end plane opposite the battery safety valve opening surface to which the molded resin

region is attached, and pull out grooves are provided on the surface of this formed plastic piece.

5 19. A battery pack as recited in claim 18 wherein the surface of the formed plastic piece has a symmetric shape.

20. A battery pack as recited in claim 18 wherein the formed plastic piece has alignment ribs which locally contact the attachment surface at the battery end plane to align the formed plastic piece in a fixed position.